

VENEZUELAN AMBLYOPININI (INSECTA: COLEOPTERA, STAPHYLINIDAE)

by

C. E. Machado-Allison¹ and Alfredo Barrera²

ABSTRACT

Eight species of the tribe Amblyopinini are known from Venezuela. The descriptions of five species (*Amblyopinus proximus*, *A. intermedius* and *A. metasternalis* plus *Amblyopinodes major* and *A. venezolanus*) are given in this paper. *Megamblyopinus seeversi* Machado-

Allison and Barrera is placed in the genus *Amblyopinus* and *A. bolivari* Barrera, Machado-Allison and Muñiz is reduced to a subspecies of *A. schmidti* Seevers. Data on hosts and distribution are given for the new species as well as *A. emarginatus* Seevers and *A. waterhousei* Fauvel.

INTRODUCTION

Ectoparasites which have extraparasitic phases in their life cycles are influenced by ecological factors in such a way that frequently their geographic distribution is less extensive than that of their hosts. Many species of Amblyopinini are restricted to montane habitats and temperate or even cold climates. Very few species are adapted to dry or warm climates, and only one species, *Amblyopinus gahani* (Fauvel), is found in a semiaquatic environment.

The Eastern Andes of Colombia are divided northward into two branches—to the west the Serranía de Perijá and to the east the Cordillera de Mérida. Since the mountains of Venezuela have Andean characteristics, close resemblance between the Venezuelan and Colombian fauna should be expected. Surprisingly, only two species, *Amblyopinus emarginatus* Seevers and *A. waterhousei* Fauvel, are present in both countries. None of the other eight species of *Amblyopinus* known from Colombia has been

found in Venezuela, and none of the other six known Venezuelan species has been recorded from Colombia.

This remarkable endemism suggests that many new species and valuable biogeographical information will be found in the future when relatively isolated, montane areas, such as the Sierra Nevada de Santa Marta in Colombia, the mountain ranges of Margualida, Parima, Pacaraima, Turagua, Zamuro, and the "tepuies" of Venezuela are investigated for this peculiar group of parasites.

Based on material collected by Smithsonian Venezuelan Project personnel, new records of previously known species are given in this paper. Five new species are described, two in the genus *Amblyopinodes* Seevers and three in the genus *Amblyopinus* Solsky. Also, we include a review of the status of *Amblyopinus bolivari* Barrera, Machado-Allison, and Muñiz 1960, described from Mexico.

SPECIES IN THE SMITHSONIAN VENEZUELAN COLLECTION

Genus *Amblyopinus* Solsky

Three new species of this genus are described below.

Amblyopinus proximus, new species (Fig. 1-4)

DESCRIPTION

Relatively slender, not highly sclerotized. Total length between 8 and 9 mm.

MALE: Labrum small, with 6 or 7 small setae on each side of anterior margin; 2 of these conspicuous, 1 longer than the other.

¹Instituto de Zoología Tropical, Universidad Central de Venezuela
²Museo de Historia Natural de la Ciudad de México

Posterolateral angles of genal area small, rounded. Eyes small, multifaceted. Ocular margin with 7 stout setae. Antennae long, with first segment one-third longer than second. Submentum with anterior margin concave, with 4 or 5 small setae on each side, 1 longer than others; gula with anterior margin almost straight, with 2 long, separated setae and about 8 shorter setae on each side. Posterior half of gula naked. Post-genal area narrower than one-third of distance between posterolateral angles. *Thorax*. Anterior margin of pronotum almost straight, with anterior angles prominent, separated by distance equal to maximum length of pronotum. Posterior margin of pronotum with 1 dark, long seta on each side, close to posterior angles. Elytra as long as wide, with dense coating of short and long aciculate setae, intermixed. Prosternum wide, elevated, with anterior margin straight; one pair of long, dark medial setae and about 40 small ones of irregular distribution. Mesosternum with anterior margin convergent to apex which is deeply inserted between coxae. Chaetotaxy consisting of 6 long, dark setae, plus 8 smaller, thinner ones. Metasternum (Fig. 1) small, with very small sinus and setae uniformly scattered on anterior two-thirds of surface. *Legs*. Tibiae of mesothoracic legs with strong setae, particularly those of apical region. Tarsal segments (Fig. 2) slightly widened, with sparse ventral pilosity on first three tarsomeres. (This combination allows the separation of this species from those which have very wide segments and abundant setae and also from those species which have modified legs.) Prothoracic and mesothoracic legs as in other species of genus. *Abdomen*. Tergites II to VII with 1 long, dark seta on each side; VIII without long dark setae, but some curved, short setae, prominent over abundant aciculate setae of tergite. Sternites III and IV without any long dark setae; V and VI with 1 macroseta on each side; VII and VIII with 2. *Modified segments and genitalia*. Cerci densely covered with short setae on entire surface; long and dark setae restricted to posterior half. Phallic organ (Fig. 3) with dorsal margin of parameres almost straight on posterior half. Ventral margin almost straight for posterior one-third, with gradual curvature behind basal setae. Fine, reduced teeth on ventral margin between proximal setae and one-half distance between proximals and distals. Two additional teeth, very small, at each side of distal pair of setae; apex of parameres small, rounded; movable sclerotized piece short, rhomboidal (Fig. 4). Dorsal lobe of phallobase apex as in Fig. 4.

FEMALE: Mesosternum with almost all setae as described in male but stronger. Sternite VIII with 2 or 3 long, dark setae on each side, with posterior margin slightly sinuated. Tergite VIII with small, curved setae as described in male. Cerci slender, longer than in male. Tergite IX with many long aciculate setae. Coxites slender, almost as long as cerci. Chaetotaxy of tergites and sternites as in male with some specimens having 2 long setae on tergite V instead of 1 on each side.

DIAGNOSIS

A. proximus, new species, belongs to the *jelskii* group of Seevers. The shape of the male genitalia and the incipient modification of the mesothoracic legs allows its separation from all the other species of the genus.

TYPE DATA: Male holotype and female allotype ex *Akodon urichi* (SVP 16024), T. F. Amazonas, Cerro Duida, Cabeceira del Caño Culebra, 1400 m elev., 2-I-67, deposited at the USNM; Paratypes - 1 female and 1 male with same data as holotype, deposited at IZUCV; 1 female and 2 males ex *Rhipidomys macconnelli* (SVP 16046), same locality as holotype but 4-I-67; 1 female and 1 male deposited at MHNCM and 1 male at IZUCV; 1 male ex *Rhipidomys macconnelli* (SVP 16017), same locality but 1-I-67, deposited at FMNH; 1 female (SVP 16031), same host and data as above but 2-I-67; 1 male ex *Rhipidomys venezuelae* (SVP 15992), same locality as above but 1480 m elev., 30-I-67, deposited at ENCB; 1 female ex *Rhipidomys macconnelli* (SVP 15986), same locality as above but 1400 m elev., 29-I-67, deposited at IZUCV.

Amblyopinus waterhousei Fauvel

Amblyopinus waterhousei Fauvel 1900:64.—Machado-Allison and Barrera, 1964:176.—Barrera and Machado-Allison, 1968:98.

Machado-Allison and Barrera (1964) have reported the finding of this species in Venezuela (Estado Merida, La Mucuy, 2050 m, ex *Didelphis azarae*).

VENEZUELAN RECORDS

One male ex *Didelphis azarae* (SVP 3950), Timotes, near Paramito, Merida, 3275 m elev., 9-II-66; 1 female and 3 males (SVP 3951), same locality and host but 3259 m elev., 1 female and 1 male ex *Didelphis azarae* (SVP 3961), 4 km W Timotes, Paramito, Merida, 3265 m elev.; 1 female and 1 male ex *Didelphis azarae* (SVP 4220), 6 km E Tabay (La Coromoto), Merida, 3155 m elev., 18-II-66. Specimens are deposited at the following institutions: IZUCV, ENCB, USNM, and FMNH.

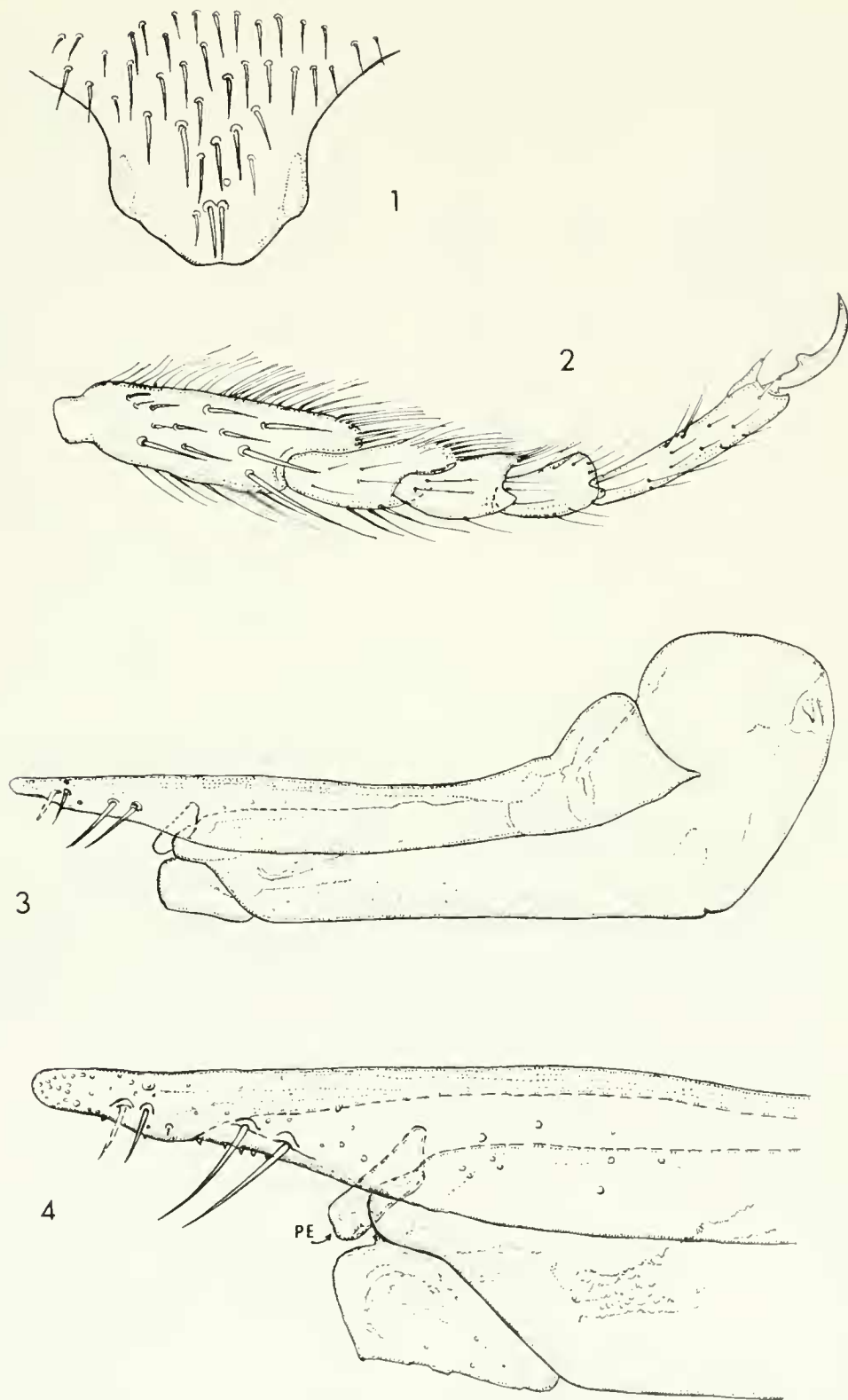


Fig. 1-4. *A. proximus*, new species, Holotype, male. 1, Metasternum; 2, Mesothoracic legs, tarsal segments; 3, Phallic organ; 4, Apex of parameres. PE=Sclerotized movable piece.

Amblyopinus metasternalis, new species

(Fig. 5-8)

DESCRIPTION

Relatively small and slender species; total length 7 to 8.5 mm.

MALE: General shape of head (Fig. 5) similar to *A. marmosae* Seevers, *A. bequaerti* Notman, and *A. henseli* Kolbe. Anterior margin of head concave with 1 short dark seta on each side close to external angle. Labrum small, with 7 long setae on each side, 1 longer, darker, 2 difficult to observe. Both margins of antennal groove with rows of 6 or 7 short but strong setae. Eyes small but with distinguishable facets. Supra- and subocular setae very long. Ocular margin with 6 or 7 short, strong setae. Mandibles with one row of setae on dorsal margin of basal sector, 1 very long. Antennae long, reaching posterior margin of pronotum. First antennal segment with 2 dark setae, 1 long, 1 shorter, both on dorsal surface. Submentum with two lateral grooves separated by small prominence, with 1 small seta on each side. Gula with posterior margin slightly concave, 1 long, several small setae on each side. Genae with 1 long, dark seta, many smaller setae on each side. **Thorax.** Lateral margins of pronotum with row of 7 or 8 short, curved setae plus 1 very long seta. Posterior margin with 6 (sometimes 7) long dark setae on each side; two setigerous points which can bear small, curved setae also present on each side. Elytra with dense pilosity of intermixed long and short setae, those of external angle of posterior margin particularly long. Basal third with row of 6 short, curved setae; this number apparently quite variable in species. Prosternum elevated, with 2 long, central setae plus about 20 smaller setae irregularly distributed. Mesosternum also elevated, wide and short with marked striation; mesosternal setae forming anterior row of 7 long dark setae plus another row of 3. In addition to larger ones, about 20 small apical setae and about 14 irregularly distributed setae on ventral surface. Metasternum (Fig. 6) extremely wide, characteristic for species, without sinus or with very shallow one; metasternal setae regularly distributed, increasing in size from center to posterior margin. Extreme posterior setae, however, almost reach margin. **Legs.** Prothoracic legs have modifications as in other species of genus as well as one long spiniform seta on posterior margin of ventral side of tibiae. In addition, 10 or 11 dorsal setae form a comblike row. Mesothoracic tibiae have strong spines on external margin, some spiniform setae intermixed with acicular setae on

ventral surface. Mesothoracic tarsi somewhat modified but lacking dilatation observed in *A. emarginatus* or in species of *Amblyopinodes*. Metathoracic tibiae with long spiniform setae intermixed with short acicular setae; tarsi long, covered by acicular setae. **Abdomen.** Tergite II with long marginal setae, 2 short, strong, almost spiniform, setae close to external margin; 2 additional small dark curved setae, similar to those described on elytra and pronotum. Tergites III to VII with 1 long macroseta on each side; 2 additional small curved ones on third tergite; 2 submarginals, 1 marginal on fourth; 3 marginals, 1 submarginal on each side of seventh. Tergite VIII without macrosetae, however, with 14 short dark curved setae close to posterior margin. Sternites III and IV without long dark setae; V and VI with 1 marginal macroseta on each side; VII with 1 and VIII with deep sinus, 1 macroseta on each side. **Modified segments and genitalia.** Tergite IX with protruding posterior angles, posterior margin densely covered by acicular setae. Sternite IX with tergite forming tube through which phallic organ is ejected. Cerci strong, with both short and long setae on posterior half. Phallic organ (Fig. 7) with very large basal lobe. Parameres long, thin, heavily sclerotized, apex acuminate with long setae, few teeth on ventral margin. Movable sclerotized piece (Fig. 7, P.E., and Fig. 8) of characteristic shape.

FEMALE: Chaetotaxy, in general, as in male. Ninth sternite wide, with long, slender setae; posterior margin convex, irregular. Gonapophysis of segment IX characteristic; valvifer wide, styli cuneiform, acute with preapical macrosetae thick, long, with 2 preapical setae of different length; internal margins covered by many small, slender setae; 6 short spiniform setae between apical and preapical macrosetae.

DIAGNOSIS

A. metasternalis, new species, is related to the other species of the *henseli* group (*henseli* Kolbe, *bequaerti* Notman, and *marmosae* Seevers). All are parasites of marsupials. Based on genital characters, *A. metasternalis* also seems to be related to *A. waterhousei* (*waterhousei* group of Seevers), another marsupial parasite. *A. metasternalis*, new species, can be separated from *marmosae* since it lacks the dentiform spine of the metathoracic tibiae; both species differ also in the chaetotaxy of the tergite VIII and sternites III to V as well as in the number of macrosetae of the posterior margin of the pronotum. From *bequaerti* and *henseli* the new species is readily distinguishable by its

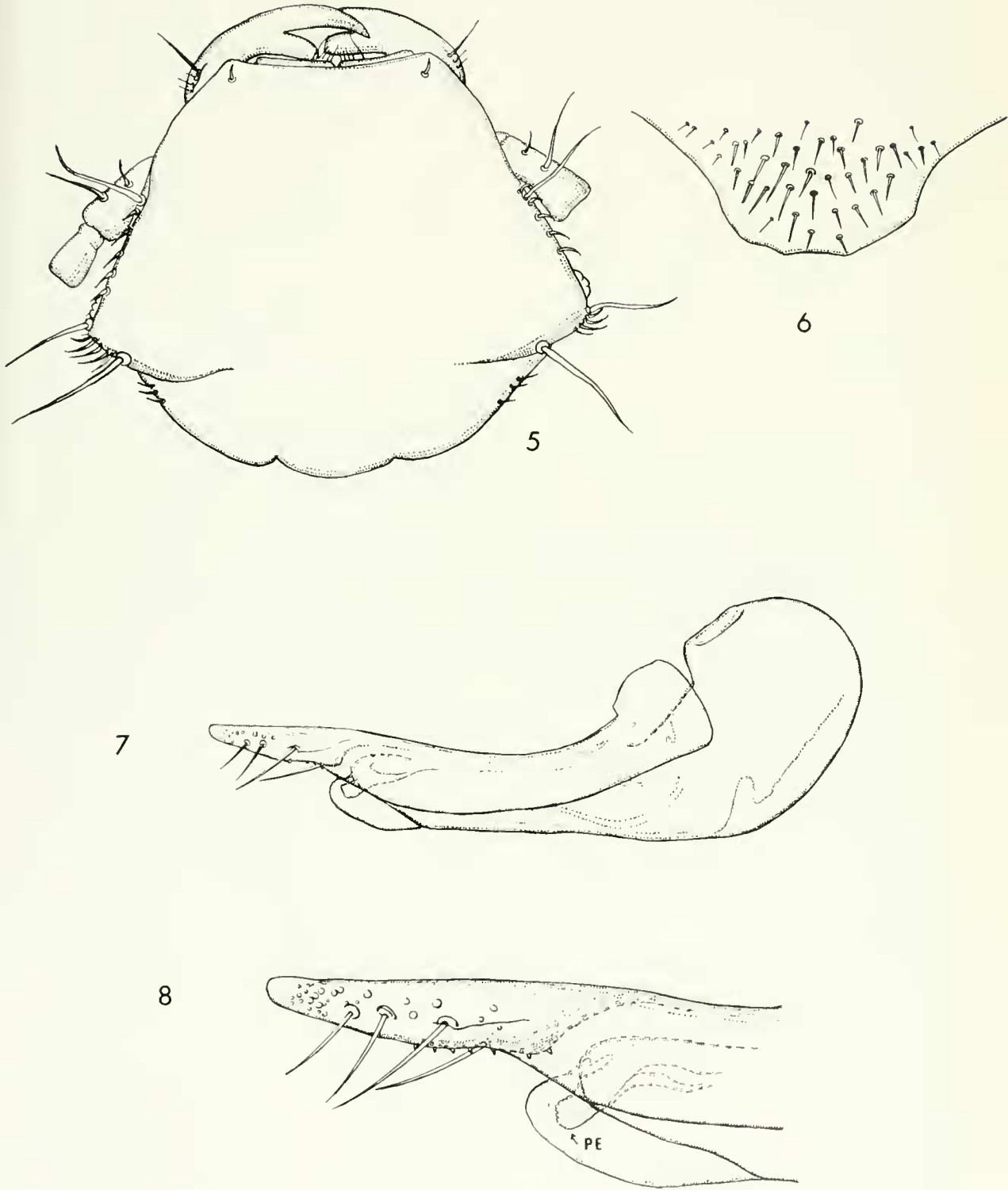


Fig. 5-8. *A. metasternalis*, new species. Holotype male. 5, Head, dorsal view; 6, Metasternum; 7, Phallic organ; 8, Apex of parameres.

larger size, facetation of the eyes, and the number of macrosetae of tergites, sternites, and pronotum. The differences have been established by comparing *metasternalis* with the types of all species of the *icaterhousei* group, and with several specimens of *A. bequaerti*.

TYPE DATA: Male holotype and female allotype ex *Marmosa dryas* (SVP 3845), Trujillo State, 15 km E Trujillo, Hacienda La Misisi, 2360 m elev., 24-I-66, deposited at USNM; Paratypes - 1 female, same data as holotype, deposited at IZUCV; 1 male (SVP 3879), same data as above but 26-I-66; 1 female and 3 males (SVP 3891), same host and general locality as above but 14 km E Trujillo and 2210 m elev., 27-I-66, deposited as follows: 1 female, 1 male at MHNCM, 1 male at FMNH, 1 male at IZUCV.

Amblyopinus seeversi
(Machado-Allison and Barrera)

Megamblyopinus seeversi Machado-Allison and Barrera, 146:179.

In a previous paper, we (Machado-Allison and Barrera, 1964) placed this Venezuelan species in the genus *Megamblyopinus* Seevers. The authors indicated that "*M. seeversi* n. sp., es provisionalmente incluida en el género *Megamblyopinus* Seevers por presentar el ángulo pósteroexterno de la cabeza prominente, los tarsos mesotorácicos no modificados y por la forma del órgano fálico. Sin embargo existen profundas diferencias entre *M. seeversi* y las otras dos especies conocidas del género." The finding of a second specimen of *seeversi* and the description of two new species, one from Venezuela and the other from Colombia (*A. trapidoi* Barrera and Machado-Allison), both of which have the postero-external angle of the head less prominent, as in *A. tiptoni* Barrera and *A. isabelae* Barrera and the phallic organ and tarsi similar to *seeversi*, allows us to establish the relationship among these four species. In addition, the shape of the movable sclerotized piece is common to this group of species. Such considerations allow us to place *seeversi* in the genus *Amblyopinus* and with other northern species (*trapidoi*, *isabelae*, *schmidti* and *tiptoni*) in the *jelskii* group of Seevers (1955).

Amblyopinus intermedius, new species

DESCRIPTION

MALE: *Head.* Labrum small, with abundant pilosity on internal margin, 6 longer setae on anterior margin; of these, 4th and 6th are

longer. Posterolateral angles rounded, not as prominent as in *A. seeversi* (Machado-Allison and Barrera). Submentum wide, with anterior margin slightly concave, 1 long seta on each side, about 13 small setae on anterior one-third followed by 3-5 medial setae. Eyes large, prominent. Ocular margin with 6 or 7 stout setae. Antennal groove not very deep, with 8 or 9 setae on ventral margin. Antennae long, reaching posterior margin of pronotum; first antennal segment almost twice the length of second. Genae wide, covered with many setae, irregularly distributed, 1 larger seta on each side. Postgenal region narrow; posterolateral angles protruding less than in *A. seeversi*. *Thorax.* Anterior margin of pronotum with angles projected, slightly forward; posterior margin with 1 long, dark seta close to angle. Total length of pronotum equal to distance between anterior angles. Elytra as long as wide, covered by dense pilosity of mixed long and short setae. Prosternum elevated, with 2 long medial macrosetae, about 40 small setae of irregular distribution but more numerous near posterior and external angles. Mesosternum also elevated, with apex shorter, less deeply inserted between coxae than in *A. seeversi*. Chaetotaxy formed by 7 large setae plus 6 or 7 short setae; anterior margin slightly concave, lateral sides with regular convergence towards apex. Metasternum (Fig. 9) wide in its posterior margin, somewhat projecting posteriorly but without process which characterizes *A. seeversi*; sinus generally well developed, basal pilosity dense, formed by long acicular setae. *Abdomen.* Chaetotaxy of tergites II to VII as in *A. seeversi*, with 2 long dark setae on each side; VIII also as in *seeversi*, without long, dark setae. Sternites III, IV and V without macrosetae; VI with 1 on each side; VII with 2-3, 3-3 or 3-4 macrosetae on each side (2-2 in *seeversi*), VIII with 4 (sometimes 5 on each side of deep sinus). *Modified segments and genitalia.* Ninth tergite with deep sinus, concave, with numerous apical setae; cerci strong, with fine pilosity on entire surface, macrosetae on posterior two-thirds. Phallic organ (Fig. 11), in general, as in *A. seeversi*, with rounded apex, callus well developed, more prominent. Small sinus in ventral margin of parameres characteristic of species as is presence of three teeth instead of large one as in *seeversi*. Movable sclerotized piece (Fig. 12) with general shape of all species of *jelskii* group. Dorsal lobe of phallobase apex, rounded as in *A. proximus* Machado-Allison and Barrera.

DIAGNOSIS

A. intermedius, new species, belongs to the *jelskii* group of Seevers (1955) and is very

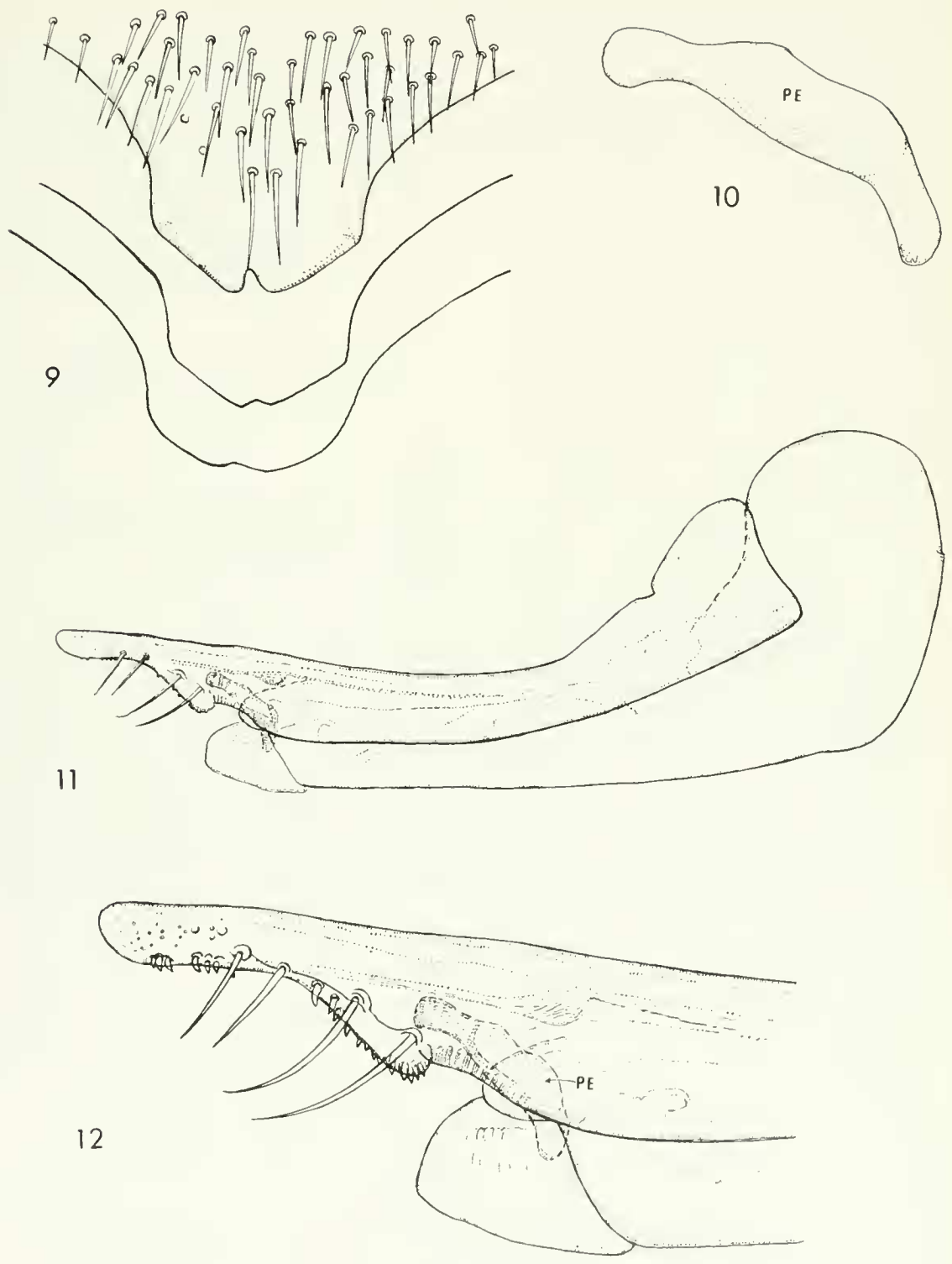


Fig. 9-12. *A. intermedius*, new species, Holotype, male. 9. Metasternum; variability in the shape of the posterior margin in Paratypes; 10. Sclerotized movable piece; 11. Phallic organ; 12. Apex of parameres.

closely related to *A. seeversi*. It is easily distinguishable from *A. schmidti* Seevers, *A. isabellae* Barrera, and *A. tiptoni* Barrera by the presence of 2 macrosetae on the posterior margin of tergites II to VII (there is only I in the previously named species) and the characters of the phallic organ. *A. intermedius* new species, is also distinguishable from *A. seeversi* (Machado-Allison and Barrera) by the shape of the metasternum, the chaetotaxy of sternite VIII of the male, and the shape of the phallic organ. Some details of the parameres and movable sclerotized piece are also of diagnostic value.

TYPE DATA: Male holotype ex *Oryzomys minutus* (SVP 3844), Trujillo State, 15 km E Trujillo, Hacienda La Misisi, 2360 m elev., 22-1-66 deposited at USNM. Female allotype ex *Rhipidomys venustus* (SVP 3885), same general locality as above but 2210 m elev. Paratypes—1 male (SVP 3882), same data as preceding entry, deposited at IZUCV; 1 female ex *Rhipidomys venustus* (SVP 636), Distrito Federal, 9.4 km N Caracas, deposited at IZUCV; 1 male ex *Thomasomys laniger* (SVP 3816), Trujillo State, 15 km E Trujillo, Hacienda La Misisi, 2360 m elev., 18-1-66, deposited at MHNCM; 1 female ex *Rhipidomys venustus* (SVP 3884), same data as preceding entry but 2210 m elev., 26-1-66; 1 female ex *Rhipidomys venustus* (SVP 3850), same locality as preceding entry, deposited at FMNH; 1 male ex *Oryzomys minutus* (SVP 3990), Merida State, 3 km W Timotes, near Paramito, 16-11-66, deposited at FMNH. Other paratypes to be deposited in the mentioned collections are 1 female (SVP 3882), same data as allotype; 1 female ex *Rhipidomys venustus* (SVP 3894), same general locality as above but 28-1-66; 1 female ex *Thomasomys laniger* (SVP 4045), Merida State, 4 km S, 5 km E Tabay (La Coromoto), 11-11-66; 1 female ex *Oryzomys minutus* (SVP 4116), same general locality as above near La Coromoto, 3400 m elev., 15-11-66; 1 female ex *Oryzomys* sp. (SVP 4432), Merida State, 5 km E, 2 km S Tabay, 14-IV-66. The paratypes SVP 780 and SVP 874 have been deposited at the IZUCV; the first one, ex *Rhipidomys venustus*, Distrito Federal, 9.4 km N Caracas, 1394 m elev., 27-VIII-65; the second one, ex *Vampyrops oratus*, is probably a contamination.

Amblyopinus schmidti schmidti
Seevers, new status

Amblyopinus schmidti Seevers, 1944:164 -
1955:231.—

A detailed analysis of the characters of this species and *A. bolivari* described from Mexico (Barrera, Machado-Allison, and Muñiz, 1960), based on specific characters of taxonomic value within related species (*isabellae*, *tiptoni*, *trapidoi*, *seeversi*, and *intermedius*, new species, together with the examination of specimens of *schmidti* from the type locality in Guatemala, has prompted us to conclude that *A. bolivari* is a subspecies of *schmidti*. The latter may be differentiated by minor characteristics of the phallic organ (movable sclerotized piece) and the arrangement of the ventral marginal teeth of the parameres.

Amblyopinus schmidti bolivari
Barrera, Machado-Allison, and Muñiz,
new status

A. bolivari Barrera, Machado-Allison, and Muñiz,
1960:127.

On the basis of the above-mentioned comments, we have reconsidered the status of this form and therefore classify it as a subspecies of *A. schmidti* Seevers.

Amblyopinus emarginatus Seevers
Amblyopinus emarginatus Seevers, 1955:239.

The presence in Venezuela of this interesting and abundant species, basically associated with the cricetine genus *Oryzomys*, was recorded for the first time by Machado-Allison and Barrera (1964) from the State of Aragua (Rancho Grande Biological Station) on *Oryzomys albicularis*. The species was also collected in the Serranía del Avila, D. F. at 2200 m. Many new records are presented in Table I.

Genus *Amblyopinodes* Seevers

Two new species of this genus are described below. Most of the described species of the genus *Amblyopinodes* have been collected in Brazil, Uruguay, Argentina, and Peru, from rodents of the family Cricetidae.

Amblyopinodes venezolanus, new species
(Fig. 13-16)

DESCRIPTION

Small species, 5.2 to 5.5 mm total length.

MALE: *Head*. Clypeal setae small, dark. Labrum reduced, almost indistinguishable. Posterolateral angles of genal area well marked. Eyes very small, facetation almost imperceptible; ocular margin with 4 or 5 short, stout setae. Antennae relatively long, almost reaching posterior margin of pronotum; antennal groove

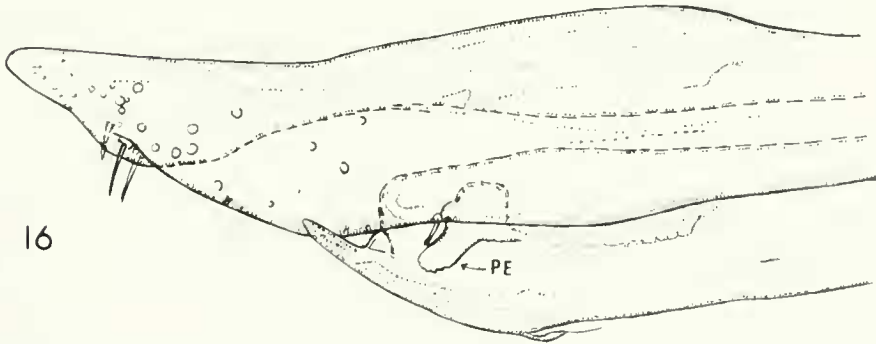
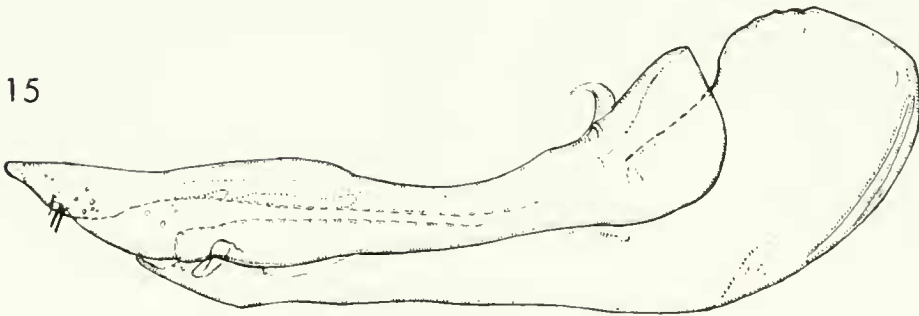
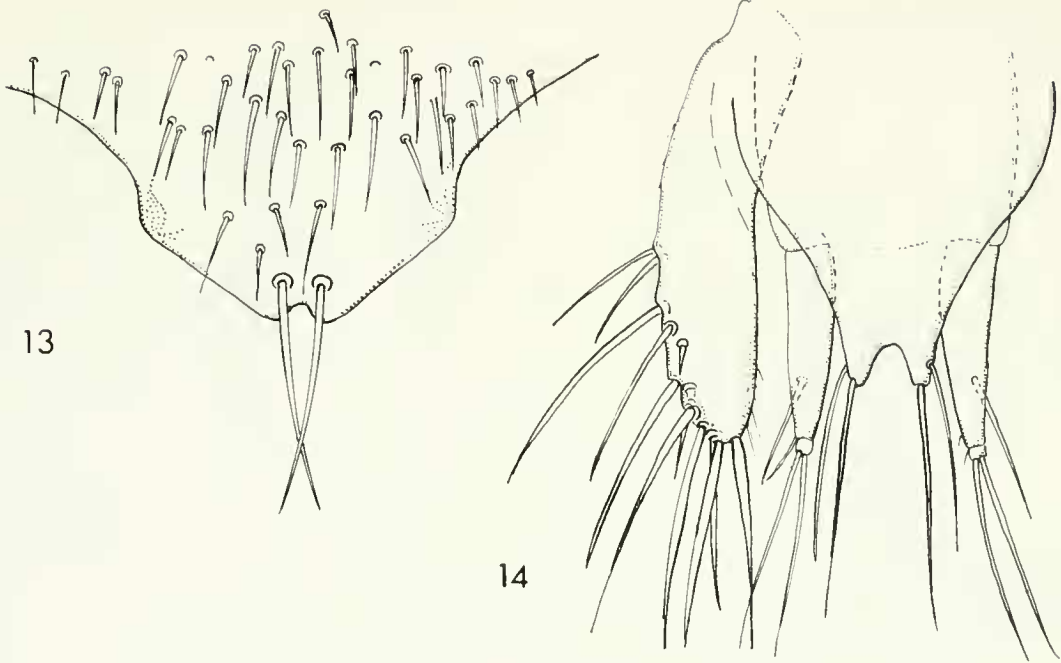


Fig. 13-16. *A. venezolanus*, new species. 13, Holotype male, metastemum; 14, Allotype female, tergite IX, coxites and cerci; 15, Holotype male, phallic organ; 16, Apex of parameres. PE = Sclerotized movable piece.

Table I. New records on distribution and hosts of *Amblyopinus emarginatus* in Venezuela.

SVP*	Locality	Elevation in meters	Host	Date	Sex and no. specimens
190	Dto. Federal, 5 km N Caracas	1638	<i>Oryzomys albigularis</i>	24-VII-65	1 ♀
197	Dto. Federal, 1 km N Caracas	1495	<i>Oryzomys albigularis</i>	25-VII-65	1 ♀ and 1 ♂
344	Dto. Federal, 5 km N Caracas	1465	<i>Oryzomys albigularis</i>	29-VII-65	1 ♀
654	Dto. Federal, 9.4 km N Caracas	2223	<i>Oryzomys albigularis</i>	19-VIII-65	1 ♀ and 1 ♂
655	Dto. Federal, 9.4 km N Caracas	2223	<i>Oryzomys albigularis</i>	19-VIII-65	1 ♀
659	Dto. Federal, 9.4 km N Caracas	2194	<i>Oryzomys albigularis</i>	20-VIII-65	1 ♀
710	Dto. Federal, 9.4 km N Caracas	2238	<i>Oryzomys albigularis</i>	23-VIII-65	1 ♀ and 2 ♂♂
713	Dto. Federal, 9.4 km N Caracas	2232	<i>Oryzomys albigularis</i>	23-VIII-65	1 ♂
772	Dto. Federal, 9.4 km N Caracas	2232	<i>Oryzomys albigularis</i>	24-VIII-65	2 ♀♀ and 2 ♂♂
774	Dto. Federal, 9.4 km N Caracas	2264	<i>Oryzomys albigularis</i>	24-VIII-65	1 ♂
775	Dto. Federal, 9.4 km N Caracas	2190	<i>Oryzomys albigularis</i>	24-VIII-65	2 ♂♂
776	Dto. Federal, 9.4 km N Caracas	2187	<i>Oryzomys albigularis</i>	24-VIII-65	1 ♀
786	Dto. Federal, 9.4 km N Caracas	2095	<i>Rhipidomys venustus</i>	24-VIII-65	1 ♀
809	Dto. Federal, 9.4 km N Caracas	2166	<i>Oryzomys albigularis</i>	24-VIII-65	1 ♂
810	Dto. Federal, 9.4 km N Caracas	2147	<i>Oryzomys albigularis</i>	24-VIII-65	1 ♂
853	Dto. Federal, 9.4 km N Caracas	1281	<i>Oryzomys albigularis</i>	25-VIII-65	1 ♀ and 1 ♂
874	Dto. Federal, 3 km N Caracas	1394	<i>Vampyrops oratus</i> **	27-VIII-65	1 ♀
995	Dto. Federal, 3 km N Caracas	2172	<i>Oryzomys albigularis</i>	27-VIII-65	1 ♂
2041	Aragua: Rancho Grande	1050	<i>Akodon urichi</i>	5-VIII-65	1 ♀
2057	Aragua: Rancho Grande	1050	<i>Oryzomys albigularis</i>	7-VIII-65	2 ♀♀ and 1 ♂
2081	Aragua: Rancho Grande	1050	<i>Oryzomys albigularis</i>	8-VIII-65	1 ♀
2087	Aragua: Rancho Grande	1050	<i>Oryzomys albigularis</i>	9-VIII-65	1 ♀
3735	Miranda: Petaquire, 20 km W Caracas	1970	<i>Oryzomys concolor</i>	22-XII-65	1 ♂
3416	Trujillo: near El Dividive, 30 km NW Valera	120	<i>Didelphis marsupialis</i>	19-X-65	4 ♀♀ and 5 ♂♂
3721	Miranda: Alto N. Leon, 20 km W Caracas	1780	<i>Oryzomys albigularis</i>	21-XII-65	2 ♀♀
3739	Miranda: Petaquire, 20 km W Caracas	1760	<i>Oryzomys albigularis</i>	23-XII-65	3 ♀♀ and 2 ♂♂
3749	Miranda: Petaquire, 20 km W Caracas	1760	<i>Bradypus infuscatus</i>	26-XII-65	2 ♀♀ and 3 ♂♂
3877	Trujillo: Hac. la Misisi, 14 km E Trujillo	2215	<i>Oryzomys albigularis</i>	26-I-66	1 ♀ and 1 ♂
3903	Trujillo: Hac. la Misisi, 14 km E Trujillo	2230	<i>Oryzomys albigularis</i>	29-I-66	1 ♂
3983	Merida: near Paramito, 3 km W Timotes	3127	host unknown	14-II-66	1 ♀
4428	Merida: 5.5 km E. 2 km S Tabay	2630	<i>Marmosa dryas</i>	14-IV-66	1 ♀
4494	Merida, 9 km E. 5 km S La Azulita (San Eusebio)	2190	<i>Oryzomys albigularis</i>	21-IV-66	1 ♂
4574	Merida: Santa Rosa	2020	<i>Oryzomys albigularis</i>	24-IV-66	1 ♀
5333	Aragua: Rancho Grande	1050	<i>Myotis nigricans</i> **	28-IV-66	1 ♂
10388	Miranda: Curapão, 19 km E Caracas	1160	<i>Oryzomys albigularis</i>	1-X-66	3 ♂♂
13013	Miranda: Quebrada Chacaito 1 km E Caracas	1140	<i>Oryzomys albigularis</i>	14-V-68	1 ♂
13014	Miranda: Quebrada Chacaito 1 km E Caracas	1130	<i>Oryzomys albigularis</i>	14-V-68	5 ♀♀ and 1 ♂
13023	Miranda: Quebrada Chacaito 1 km E Caracas	1175	<i>Oryzomys albigularis</i>	15-V-68	3 ♀♀ and 2 ♂♂

*Smithsonian Venezuelan Project Field numbers

**Probably a contamination

wide, deep, without setae on ventral margin. Submentum wide, with concave anterior margin. 6 small setae on each side, 2 innermost longer than others. Gula relatively short, with pair of macrosetae, very close to each other, about 10 small setae on each side of anterior one-third. Posterior margin of gula very narrow, with only one-third of distance between anterior angles of

head. Posterior two-thirds of gula without setae. Posterior half of gena wide, with about 30 small setae on each side. *Thorax*. Pronotum with rounded anterior angles; posterior margin concave in middle, with 3 macrosetae on each side, outermost in angle. Total length of pronotum approximately one-half distance between posterior angles. Elytra as in other species of

genus. Prosternum with anterior margin concave, 1 macrosetae, 11 or 12 small setae on each side. Mesosternum with anterior margin slightly convex; lateral margins regularly convergent, apex slightly projected between coxae, chaetotaxy formed by 7 long and 10 or 11 short setae. Metasternum wide, with shallow sinus, apex of most distal seta reaching apex as in *A. claviger* Franz. *Legs*. Prothoracic legs as in other species of genus. Mesothoracic legs short, densely covered by spiniform setae; tarsal segments I to III with dense ventral pilosity; V with 3 ventral setae on each side. Metathoracic legs long; tibiae with two spiniform, flattened spines on distal end, row of spiniform setae on external sides; tarsal segment V with 3 stout aciculate setae on each side of ventral surface, plus 2 spiniform setae. *Abdomen*. Tergite II with 3 or 4 macrosetae on each side as in *A. gahani* (Fauvel); III and IV with 2; V and VI with 1 marginal and 1 submarginal (1-1 - 1-1); VII with 2-1 - 1-1 and VIII with 2 on posterior margin and 3 submarginals on each side (2-3 - 2-3). Sternites III to V with claviform setae; VI with 2 marginal and 2 submarginal macrosetae; VIII with 6 or 7 setae on each side. *Modified segments and genitalia*. Ninth tergite with posterior margin concave, with 2 long setae, 1 marginal and 1 submarginal on each angle. Sternite IX small, densely covered by small acicular setae. Cerci short, wide, strong, as in *A. piceus* (Brethes), but much smaller. Phallic organ characteristic (Fig. 15) with parameres very elevated in preapical region, suddenly convergent to apex. Ventral setae of parameres short, distal pair very close to apex, widely separated from basal pair. Ventral margin of parameres with small teeth reduced in number. Movable sclerotized piece (Fig. 16) small, characteristic in shape, with margins at level of inner sac, very sclerotized, projected posteriorly, forming characteristic process.

FEMALE: Somewhat smaller but stronger than male. Chaetotaxy of tergites and sternites as in holotype. Cerci somewhat longer, slender. Coxites slender, very long, surpassing apex of cerci, with two long macrosetae, one apical and one subapical. Tergite IX deeply sinuated, with 1 long macroseta on each apical lobe (Fig. 14).

DIAGNOSIS

A. venezolanus, new species, is easily distinguishable from all other species of the genus by the characteristics of the phallic organ, chaetotaxy and shape of the tergite IX of the male and female. The chaetotaxy of the second tergite and the smaller size and coloration of this species seems to relate it to *A. gahani* (Fauvel).

TYPE DATA: Male holotype and female allotype ex *Akodon urichi* (SVP 8367), Bolivar State, 85 km SSE El Dorado, 1032 m elev., 18-V-66, deposited at USNM.

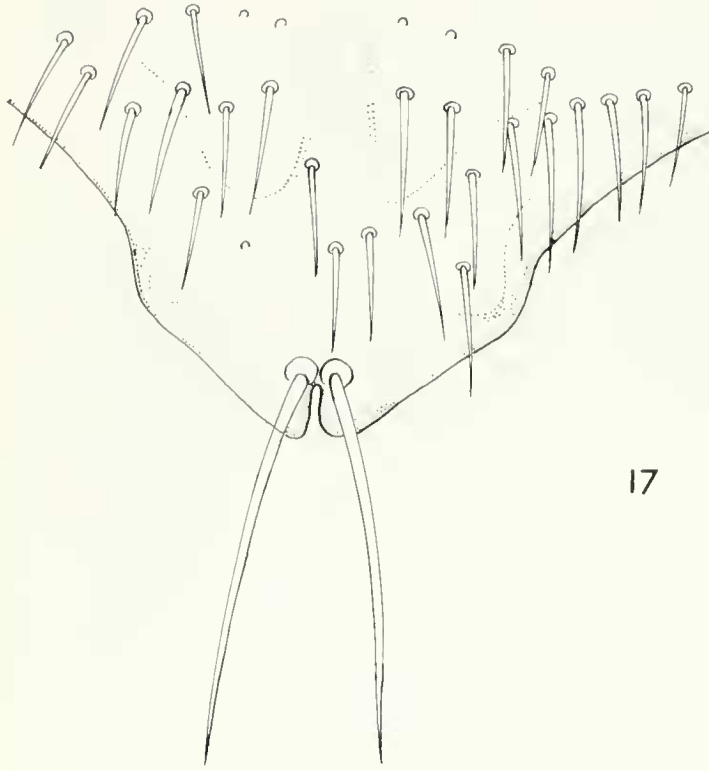
Amblyopinodes major, new species

(Fig. 17-19)

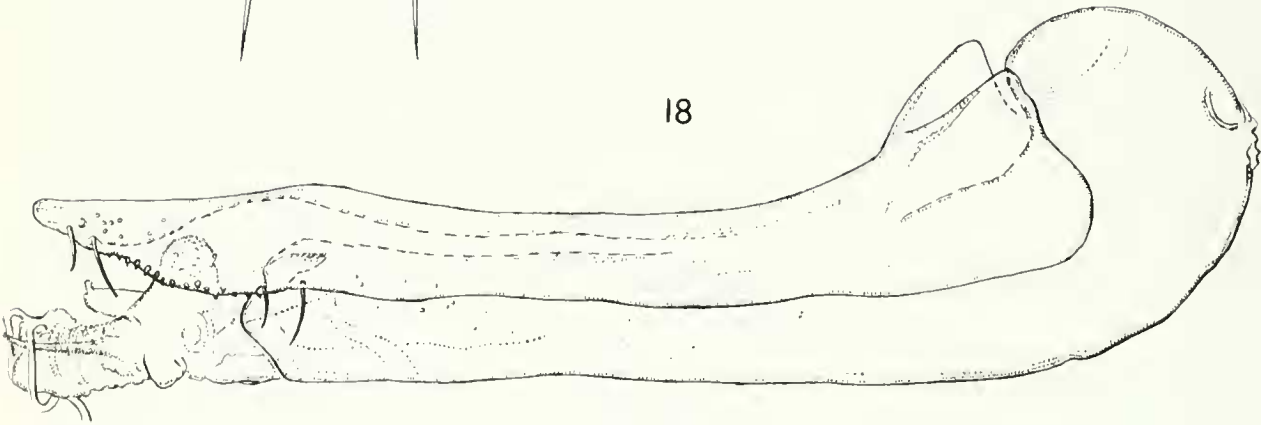
DESCRIPTION

Large, robust species, 10 mm in length, highly sclerotized.

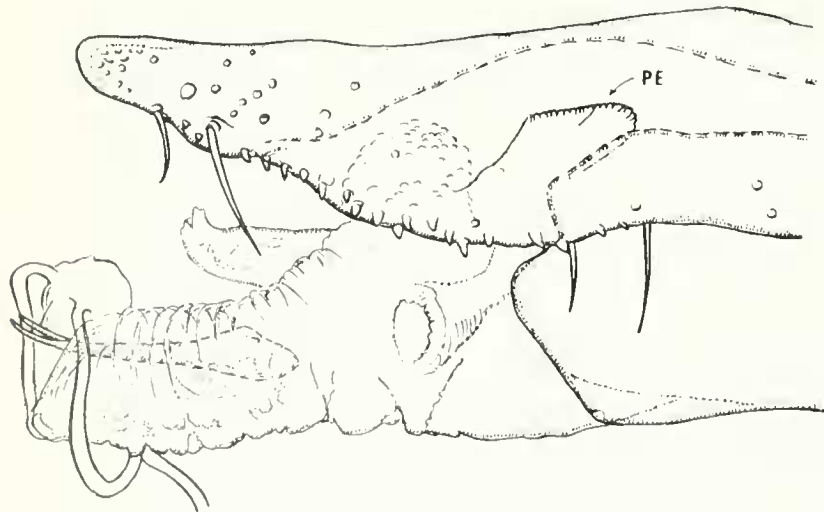
MALE: *Head*. Labrum small, bilobed, with 6 or 7 small setae on each side. Eyes small, with facetation indistinguishable; ocular margin with 4 stout setae; in addition, 1 or 2 very small and inclinate setae. Antennal groove short, very wide, deep, without setae on ventral margin. Antennae relatively short, with first segment slightly longer than second. Submentum large, with anterior margin concave, 2 setae on each side, inner one longer than other. Gula with 2 large setae, 3 or 4 small setae of which anterior is larger than others as in *A. travassosi* Costa Lima and *A. piceus* Brethes. Genae wide, with about 35 small setae on each side. *Thorax*. Pronotum wide, large, with protruding anterior angles, numerous small stout setae on ventral side; distance between anterior angles equal to total length of pronotum. Posterior margin almost straight, with 4 large, dark setae on each side as in *A. piceus*. Elytra covered by uniformly long setae, with exception of some lateral longer setae. Prosternum large, with 2 characteristic macrosetae and 23 to 25 small setae on each side. Mesosternum triangular with anterior margin convex as in *A. guimaraesi* Machado-Allison and *A. adae* Machado-Allison; chaetotaxy consisting of 7 large and many short, feeble setae. Metasternum with sinus deep and setae limited to basal two-thirds (Fig. 17). *Legs*. Prothoracic legs as in other species of genus; first tarsal segment of mesothoracic legs very wide; tarsal segments I to III with dense pilosity on ventral surface; V with three pairs of strong setae. Metathoracic legs with strong ventral setae, four pairs on segment V, almost spiniform, plus 2 short, strong lateral setae. *Abdomen*. Tergite II with 3 long macrosetae on each side; III and IV with 2; V, VI and VII with 2 marginals, 1 submarginal (2-1 - 2-1); VIII with 1 or 2 marginals, 3 submarginals on each side. Sternites III to V with claviform setae, differing from *A. piceus* which also have such modified setae on sternite VI. Sternites VI and VII with 4 marginal and 2 submarginal macrosetae; sinus of VIII sternite very wide but not deep. *Modified segments and genitalia*. Posterior margin of



17



18



19

Fig. 17-19. *A. major*, new species, Holotype, male. 17, Metasternum; 18, Phallic organ; 19, Apex of parameres.

sternite IX straight, with long seta on each side. Phallic organ (Fig. 18) with long, sclerotized parameres, slightly widened at level of movable sclerotized piece; apex somewhat more rounded than in *A. piceus*. Ventral margin with numerous marginal and submarginal teeth of irregular arrangement and distributed from basal to apical pairs of setae. Movable sclerotized piece (Fig. 19) large, with apical margin widely striated, almost parallel margins.

Female not known.

TYPE DATA: Male holotype ex *Proechimys guyanensis* (SVP 8007), Bolivar State, 85 km SSE El Dorado, 1032 m elev., 9-V-66, deposited at USNM; Paratype-1 male ex

Proechimys hoplomyoides (SVP 8008), same locality as holotype, deposited at IZUCV.

ABBREVIATIONS

FMNH	Field Museum of Natural History, Chicago, Illinois, USA.
ENCB	Escuela Nacional de Ciencias Biológicas, IPN, México D.F., México.
MHNCM	Museo de Historia Natural de la Ciudad de México, México.
IZUCV	Instituto de Zoología Tropical, UCV, Caracas, Venezuela.
USNM	U.S. National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

SUMMARY

Five new Venezuelan species of Amblyopinini (Insecta, Coleoptera, Staphylinidae) parasitic on mammals are described. Eight species of the tribe are now known from Venezuela. The status of the Venezuelan species *Megamblyopinus seeversi* Machado-Allison and Barrera and the Mexican species *Amblyopinus bolivari* Barrera, Machado-Allison, and Muñiz are reconsidered. *M. seeversi* is transferred to the genus *Amblyopinus* and *A. bolivari* is considered to be a subspecies of *A. schmidti* Seevers. New data on distribution and hosts of *A. emarginatus* and *A. waterhousei* are also given.

The description of new species is based on specimens collected by the Smithsonian Venezuelan Project during the years 1965-1968. The following species of *Amblyopinus* are described: *A. proximus*, new species, related to the *jelskii* group but readily separated from species of that

group by its feeble but enlarged mesothoracic tarsi and reduced pilosity on the ventral side of the first three tarsomeres; *A. intermedius*, new species, of the *jelskii* group, related to *A. seeversi* but readily differentiated by the shape of the metasternum and the phallic organ; *A. metasternalis*, new species, a characteristic species related to the *henseli* group by the shape of the head, but with the genitalia similar to species of the *waterhousei* group. Most of the species of both of these latter groups are parasitic on marsupials. Two new species of the genus *Amblyopinodes* Seevers are described: *A. major*, new species, related to *A. piceus* Brethes but distinguishable by the absence of claviform setae on sternite VI, and *A. venezolanus*, new species, which may be distinguished from all other species of the genus by emargination of tergite IX in both males and females.

RESUMEN

Se describen cinco nuevas especies venezolanas de Amblyopinini (Insecta, Coleoptera, Staphylinidae) parasitas de mamíferos. Con ellas el número de especies conocidas para Venezuela se eleva a ocho. Además, se reconsidera el status de *Megamblyopinus seeversi* Machado-Allison y Barrera, 1964, descrito de Venezuela, para ser colocado en el género *Amblyopinus* Solsky y el de *Amblyopinus bolivari* Barrera, Machado-Allison y Muñiz, 1960, descrito de México, para ser considerado como una subespecie de *A. schmidti* Seevers, 1944. Por último, se ofrecen nuevos datos sobre la distribución de

Amblyopinus waterhousei Fauvel y de *Amblyopinus emarginatus* Seevers.

La descripción de nuevas especies está basada en materiales colectados por personal de la Smithsonian Institution de 1965 a 1968 durante el desarrollo del Proyecto Smithsonian-Venezuela. Del género *Amblyopinus* son descritos *A. proximus*, especie nueva, relacionada con el grupo *jelskii* de Seevers, pero que se distingue por presentar las patas mesotorácicas con tarsos ligeramente ensanchados y escasa pilosidad plantar sobre los tres primeros; *A. intermedius*, especie nueva, del grupo *jelskii* y cercana a *A.*

seeveri, pero fácilmente separable por la forma del metasternón y del órgano fálico y *A. metasternalis* especie nueva, relacionada con otras especies parasitas de marsupiales, del grupo *waterhousei*, pero con una combinación de número de sedas sobre el margen posterior del pronoto que la separa de dichas especies y de las del grupo *henseli*. Del género *Amblyopinodes* See-

vers, se describen *A. major*, especie nueva, cercana a *A. piceus*, pero fácilmente separable de esta especie por carecer de sedas claviformes en el esternito VI, y *A. venezuelas*, especie nueva, que se distingue de las demás especies del género por tener el borde posterior del terguito IX emarginado.

LITERATURE CITED

- BARRERA, A. 1966. New species of the genus *Amblyopinus* Solsky from Panama and Mexico (Col.: Staph.). In *Ectoparasites of Panama, Field Museum of Natural History* Chicago, Ill. 281-288.
- BARRERA, A., C. MACHADO-ALLISON, AND R. MUÑIZ. 1960. Un nuevo coleoptero parasito de roedores: *Amblyopinus bolivari* sp. nov. (Col.: Staph.). *Ciencia (Mexico)* 20(5-6):127-130.
- BARRERA, A. AND C. MACHADO-ALLISON. 1965. Coleopteros ectoparasitos de mamíferos. *Ciencia (Mexico)* 23(5):201-208.
- BARRERA, A. AND C. MACHADO-ALLISON. 1968. *Amblyopinus* de Colombia. *Neotropica* 14(45):89-98.
- MACHADO-ALLISON, C. 1962. Sobre las especies brasileras del género *Amblyopinodes* Seever, 1955, con descripción de dos nuevas especies. (Col.: Staph.). *Papeis Avulsos, Departamento de Zoologia* 14(31):311-328.
- MACHADO-ALLISON, C. 1962. Nuevos estafilínidos parasitos de roedores y clave para las especies del género *Amblyopinodes* Seever, 1955. (Col.:Staph.). *Papeis Avulsos, Departamento de Zoologia* 15(9): 81-90.
- MACHADO-ALLISON, C. 1963. Revisión del género *Amblyopinodes* Seever, 1955. (Col.: Staph.). *Acta Biológica Venezolana* 3(25):371-416.
- MACHADO-ALLISON, C. AND A. BARRERA. 1964. Sobre *Megamblyopinus*, *Amblyopinus* y *Amblyopinodes* (Col.: Staph.) *Revista de la Sociedad Mexicana de Historia Natural* 25:173-191.
- MARTÍNEZ, A., A. BARRERA, AND C. MACHADO-ALLISON. 1970. Sobre algunos *Amblyopinini* sudamericanos (Ins.: Col.: Staph.). *Anales de la Escuela Nacional de Ciencias Biológicas* 17:127-149.
- SEEVERS, C. H. 1944. A new subfamily of beetles parasitic on mammals. Staphylinidae, *Amblyopininae*. *Fieldiana: Zoology, Zoological Series of Field Museum of Natural History* 28 (3):155-172.
- SEEVERS, C. H. 1955. A revision of the tribe *Amblyopinini*: Staphylinid beetles parasitic on mammals. *Fieldiana: Zoology, Zoological Series of Field Museum of Natural History* 37:211-264.